

DERWENT-ACC-NO: 1987-092711

DERWENT-WEEK: 198713

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TITLE: Coal dust boiler set fly ash carbon determinator - has electrode at top of sensor tube of variable cross=section and connected via capacitance-to-signal converter to a computer

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PATENT-ASSIGNEE: AS UKR HEAT PHYS INSTR[AUHER], AS UKR TECH HEAT PH[AUTER]

PRIORITY-DATA: 1985SU-3864560 (March 4, 1985)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
SU 1249427 A	August 7, 1986	N/A	004	N/A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
SU 1249427A	N/A	1985SU-3864560	March 4, 1985

INT-CL (IPC): G01N027/22

ABSTRACTED-PUB-NO: SU 1249427A

BASIC-ABSTRACT:

The circuitry contains a capacitive sensor, capacitance to electric signal converter (4), control computer (5), vibrators (9,10) on the table (8), indicator (11), accelerometers (12,13) and A/D converter (14). It also has an ash flow rate measurer formed by another capacitance to electric signal converter (7) between the computer and an additional electrode (6) at the top of the variable-section tube (1) with the electrodes (2,3) as the sensor.

The ratio ( $D/d$ ) of the dia. at the top of the tube to the dia. at the bottom is equal to (the square root of  $k$ ) as the ratio of the max. and min. ash flow rates. The ash is passed through the vibrating tube in a vibro-fluidised state and through a definite gap between it and the table. The additional parts monitor the mode of operation. The shape of the tube enables all the sampled ash to be measured since the flow varies as e.g. the quality of the coal. The computer controls the vibration frequency and relates the ash carbon content (by wt.) to the increment in capacitance.

USE/ADVANTAGE - In free-flowing materials research, useful in monitoring the carbon content of fly ash in mining, heat and power engineering and the building materials industry, e.g. for gravimetric analysis. Accuracy is increased. Bul.29/7.8.86

CHOSEN-DRAWING: Dwg. 1/1

TITLE-TERMS: COAL DUST BOILER SET FLY ASH CARBON DETERMINATE  
ELECTRODE TOP

SENSE TUBE VARIABLE CROSS=SECTION CONNECT CAPACITANCE  
SIGNAL

CONVERTER COMPUTER

DERWENT-CLASS: J04 J09 S03

CPI-CODES: J04-C04;

EPI-CODES: S03-E02C;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1987-038717

Non-CPI Secondary Accession Numbers: N1987-069480